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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/179,872	10/28/1998	PAN-JIN KIM	1317.1055/MD	6192
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WASHINGTON, DC 20001

EXAMINER

BROWN, RUEBEN M

ART UNIT	PAPER NUMBER
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2611

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DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

24

Office Action Summary

Application No.

09/179,872

Applicant(s)

KIM ET AL.

Examiner

Brown M. Reuben

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 12/26/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-14, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-14, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/26/2002 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 7-11, 13 & 17-18 are rejected under 35 U.S.C. 103(a) as being obvious Lownes, (U.S. Pat # 6,137,539).

Considering claims 1 & 7, as for the claimed method and apparatus for displaying channel information on a digital TV for receiving multi-channel TV broadcasting, comprising a method of changing a current channel to a demanded channel outside of an EPG environment, in response to a demand to change a major channel number, automatically displaying on a TV

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screen, minor channel numbers received through a currently selected major channel and a number of the major channel; see Lownes, Abstract; Fig. 3A; Fig. 3B; Fig. 3C; Fig. 3D; col. 1, lines 60-65.

The above referenced portions of Lownes explicitly teach that the major channel number indicator is displayed and each of the indicators that correspond with the minor channel numbers associated with the instant major channel number. As for the claimed limitation of displaying the major and minor channel number on a TV screen, after a demand to change the current channel, this feature is necessarily included in Lownes. The digital TV system in Lownes includes a remote control 94 for inputting commands to control the STB 90. However, Lownes does not explicitly discuss the user inputting a command to change the major channel, even though it is disclosed that the user is enabled to advance to the next minor channel; see col. 8, lines 28-30. Nevertheless, Official Notice is taken that at the time the invention was made, it was very well known in the art to input channel change command to change a major channel using at least CH Up/Down or direct input using numeric characters on a remote control. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Lownes with the old art of channel change functions, at least for the known purpose of enabling the user choose a program desired to be viewed.

Considering claim 2, Fig. 3 shows that the minor channel numbered are displayed in order.

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Considering claim 3, the minor channel numbers are displayed after the major channel number.

Considering claims 8-9, the claimed prescribed direction and sequential of minor channel numbers reads on Table 1, i.e., col. 6, lines 28-40 & Fig. 3 of Lownes.

Considering claim 10, the instant claim reads on displaying the TV program from the channel of the lowest minor channel number, after the instant channel is selected, which is necessarily included in Lownes.

Considering claims 11 & 13, Lownes discloses changing the minor channel number, but does not discuss using the old art of CH Up/Down. It would have been obvious for one of ordinary skill in the art at the time the invention was made to operate Lownes in a manner in which the CH Up/Down feature is used to channel the major minor channel numbers, at least for the desirable benefit of a convenient method changing channels.

Considering claims 17 & 18, the claimed apparatus and device for displaying channel information on a digital TV, comprising elements that correspond with subject matter mentioned above in the rejection of claim 1, are likewise treated.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lownes, in view of Lee, (U.S. Pat # 6,104,436)

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Considering claims 4 & 6, Lownes does not teach hiding the major or minor channel numbers after a prescribed time has elapsed. Nevertheless, Lee provides a disclosure of terminating the display of listed channel numbers after a preset time has elapsed, (col. 3, lines 55-60 & Fig. 2, 206). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Lownes with the technology taught by Lee, since after a certain amount of time, the display of the channel numbers may become an annoyance to subscriber, who is viewing a TV program.

Considering claim 5, the claimed feature is met by Lownes col. 8, lines 28-31.

5. Claims 12 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lownes, in view of Keenan, (U.S. Pat # 5,161,023).

Considering claim 12, the instant claimed feature reads on an endless loop operation such that once the user gets to the top of a list of programs, the next program to be highlighted (selected), would be the program at the bottom of the list, and vice versa. Keenan (col. 1, lines 51-59) discloses such a technology. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Lownes, with the known technology of 'wrap around' lists as taught by Keenan (Fig. 3A; col. 3, lines 40-52), at least for the desirable purpose of avoiding the user having to move the cursor in the other direction in order to reach the

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opposite extreme of the instant list, which would be burdensome on the user, at least in the case of long lists of programs.

Considering claim 14, as discussed above in the analysis of claim 12, it would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Lownes with the well known 'wrap around' technology disclosed in Keenan (Fig. 3A). However, claim 14 requires the additional step that a user is automatically connected to a succeeding or preceding list of minor channels, depending on whether the user's cursor is currently selecting the highest minor channel or lowest minor channel, respectively of the currently active minor channel list.

To that end, Keenan also teaches that a plurality of independent lists of channels may be linked by pointers, which connect the first channel of an instant channel list with the last channel of the next adjacent channel list, and vice versa (Fig. 4; col. 3, lines 64-67 thru col. 4, lines 1-25; col. 5, lines 1-15).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Seo Teaches displaying minor channel in a format of four quadrants, see Fig. 3 & paragraph 0025 & 0026.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 872-9314 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")


*Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).*

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Reuben M. Brown whose telephone number is (703) 305-2399.
The examiner can normally be reached on M-F (8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Andrew I. Faile can be reached on (703) 305-4380. The fax phone numbers for the
organization where this application or proceeding is assigned is (703) 872-9314 for regular
communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is (703) 305-4700.

Reuben M. Brown


ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600